

DP-900: Azure Data Fundamentals Trainer Preparation Guide

October 2022

Purpose

This document is for Microsoft Certified Trainers preparing to teach **DP-900: Azure Data Fundamentals**. This course is designed for students who are planning to take the corresponding certification exam, or students who are interested in learning the fundamentals of cloud data services with Microsoft Azure.

Audience Profile

The audience for this course is individuals who want to learn the fundamentals of database concepts in a cloud environment, get basic skilling in cloud data services, and build their foundational knowledge of cloud data services within Microsoft Azure.

Audience Prerequisites

Prerequisite certification is not required before taking this course. Successful Azure Data Fundamentals students start with some basic awareness of computing and Internet concepts, and an interest in extracting insights from data.

Specifically:

- Experience using a web browser, such as Microsoft Edge.
- Familiarity with basic data-related concepts, such as working with tables of data in a spreadsheet and visualizing data using charts.
- A willingness to learn through hands-on exploration.

For learners who might be new to the data space and not yet familiar with some basic concepts, there is also a primer, [Understand data concepts - Training | Microsoft Learn](#). This primer provides a basic introduction to general concepts and terminology and is independent of any specific Microsoft solution.

Certification Exam

This course is intended to prepare students for the DP-900: Azure Data Fundamentals exam.

This exam has four general study areas (functional groups). Each study area has a percentage indicating the relative weight of the exam area. The higher the percentage, the more questions students are likely to see in that area.

Study Area	Percentage
Describe core data concepts	25-30%
Identify considerations for relational data on Azure	20-25%
Describe considerations for working with non-relational data on Azure	15-20%
Describe an analytics workload on Azure	25-30%

Additional details regarding the topics covered in each of these study areas is included in [DP-900 study guide](#) and is included as a link in the exam page [Exam DP-900: Microsoft Azure Data Fundamentals - Certifications](#).

This exam is not a prerequisite for any other exam nor is any other exam a prerequisite for this DP-900 exam. It is a standalone exam offering.

Prerequisite Knowledge to teach this course

To successfully teach this course, you must have:

- Familiarity with Azure platform
- Experience with SQL Server
- Experience working with Microsoft Power BI
- Experience working with Azure Synapse Analytics

Required Materials to prepare for and teach this course

You need the following materials to prepare for and teach this course:

Resource	Description
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Microsoft PowerPoint files	Download the DP-900T00A-ENU-PowerPoint.zip from the MCT Download Center .
Change Log	Download the DP-900T00A-ENU-ChangeLog.pdf from the MCT Download Center .
Lab environment provided by your lab hosting provider	Contact your lab hosting provider for instructions on using their lab environment.
Lab instructions	The lab instructions are provided in the lab environment and in the DP-900 Microsoft Learning GitHub repository MicrosoftLearning/DP-900T00A-Azure-Data-Fundamentals: DP-900 ILT lab instructions (github.com) .
Student training content	See the following section for a detailed breakdown of each Learning Path covered in the course.
Microsoft Learn for Educators program	For educational institutions that deliver this course, additional assets are available through the Learning Download Center (LDC) for Educators.

Student training content

The student training content for this course is located in Microsoft Learn. The following table provides a breakdown of each Learning Path, the modules covered in each, and the link to each LP in Microsoft Learn.

The student training content includes links to additional reading material to help you prepare for

Learning Path	Module	Online training in Microsoft Learn
Course Introduction	N/A	Slides only
Learning Path 1: Microsoft Azure Data Fundamentals: Explore core data concepts	Module 1: Explore core data concepts Module 2: Explore data roles and services	Microsoft Azure Data Fundamentals: Explore core data concepts - Training Microsoft Learn
Learning Path 2: Microsoft Azure Data Fundamentals: Explore relational data in Azure	Module 1: Explore fundamental relational data concepts Module 2: Explore relational database services in Azure	Microsoft Azure Data Fundamentals: Explore relational data in Azure - Training Microsoft Learn
Learning Path 3: Microsoft Azure Data Fundamentals: Explore non-relational data in Azure	Module 1: Explore Azure Storage for non-relational data Module 2: Explore fundamentals of Azure Cosmos DB	Microsoft Azure Data Fundamentals: Explore non-relational data in Azure - Training Microsoft Learn

Learning Path 4: Microsoft Azure Data Fundamentals: Explore data analytics in Azure	Module 1: Explore fundamentals of large-scale data warehousing Module 2: Explore fundamentals of real-time analytics Module 3: Explore fundamentals of data visualization	Microsoft Azure Data Fundamentals: Explore data analytics in Azure - Training Microsoft Learn
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Preparation Tasks

Instructors should complete the following tasks to prepare for teaching this course:

- If you have previously taught this class, refer to the course's Change Log. It provides detailed information on how the course has changed over time. The Change Log is updated for each course release.
- Review all topics in the student training material in Microsoft Learn (see the link in the Required Materials section above). You should be well-versed in every topic. If you have previously taught the course and are comfortable with your knowledge of each topic, focus primarily on the new or updated topics as outlined in the Change Log.
- Review the PowerPoint slides.
 - Be able to speak to each of the talking points on the slides. Some slides include a graphic from the associated Learn content for the topic. These graphics are provided on the slide so that you can speak to them to help explain the key talking points in the topic.
 - **The bulleted items on each slide should NOT be read verbatim to the students.** The students can read the slides themselves. Rather, the bullet points reflect the key information that you should focus on when discussing each topic. You should use your experience as a subject matter expert to explain the What, the Why, and the How of each topic. **This is your opportunity to provide a real value-add above and beyond the bulleted talking points.**
- Review the Additional Reading links and other linked resources provided in the student training material. **It's recommended that you present key points from this material to supplement the value-add you provide as an instructor.**
- As you prepare for the class, you should review each unit and determine which ones you want to perform demonstrations of the corresponding product functionality. It's up to you to decide which product features you want to demonstrate to the class. You should use your experience to identify key points during the demonstration process. **This is an area where you should rely on your experience as a subject matter expert to provide additional value-add to the students.**
- You should review each Knowledge Check (KC) question so that you know why the correct answer is correct for each question. Students may challenge some of the questions, so you must be able to address any of those concerns.
- You should perform the labs yourself prior to class so that you become familiar with them and with any of the difficult points in the lab exercises. This will prepare you for helping students in case they get stuck.

Course Timing

Daily Agenda

The following agenda provides estimated times to complete each classroom activity. However, the estimated times may vary depending on the background of your students, which may affect whether you can move faster or slower through the course material.

Estimated times for each section include the time to complete:

- The section's PowerPoint slide deck presentation.
- Any pre-defined product demonstrations.
- Time to review Knowledge Check questions (see the section on Additional Timing Notes below).
- Time to complete a classroom discussion activity if a Discussion slide is included in the section's slide deck.

You should adjust the agenda accordingly based on any classroom activities that you personally created or plan to deliver that are not included in the slides for this course. For example, if you plan to present:

- ad-hoc demonstrations
- review activities
- classroom games
- and so on...

Note: Each activity in the following agenda is the slide deck presentation for that section.

To keep to these timings, **avoid "over-teaching" and the temptation to expand on what's in the slides** – remember that this is a fundamentals level course, and your own knowledge most likely exceeds the scope of what needs to be covered!

Estimated Time	Classroom activity
30 minutes	Course Introduction slide deck (time may vary due to the number of student introductions in a given course)
45 minutes	1: Explore core data concepts
15 minutes	Break
60 minutes	2: Explore relational data in Azure
60 minutes	Lunch
90 minutes	3: Explore non-relational data in Azure
15 minutes	Break
150 minutes	4: Explore data analytics in Azure

Delivery Tips

This section includes some tips and suggestions to help you deliver the course.

- Before class starts, complete the exercises in the online modules on Learn.
- There's a lot of content to get through, so be strict with break durations and lab times. Don't spend a lot of time on introductions at the beginning of the course, as you'll find it difficult to make this time up over the rest of the day!
- Use the presenter notes in the slides to help you deliver the content. Remember that many students may not have a technical background, and the online portals may be confusing and intimidating – reassure students that the goal is to help them experience the capabilities for themselves.
- Ensure students get the opportunity to complete the labs in the flow of the course. Don't be tempted to skip labs or leave them to be completed after presenting all the content. Hands on experience in context is the best way to reinforce the concepts.
- Emphasize the relationship between the classroom experience you are delivering and the online content on Microsoft Learn. The goal is to provide the best blend of your expertise as an instructor during the classroom experience with a rich set of online content that enables students to explore further in their own time – particularly if they are preparing for the associated certification exam.
- Cloud-based services are subject to frequent change and can be affected by network configuration and transient network issues. If something goes wrong during a lab, avoid spending too long trying to troubleshoot it. If you can get the exercise working on your own computer, demonstrate it and encourage students to go back to the relevant module on Microsoft Learn later.

Additional Timing Notes - Knowledge Check questions

Knowledge check (KC) questions are provided throughout the course to check the student's knowledge of the material that was covered. Instructors can use these KC questions in several ways:

- Conduct a formal classroom exercise in which you go through the questions in a module before moving on to the next module.
- Sprinkle the questions into the content as you cover the related material for a module
- Let the students review the questions after class as a daily homework assignment. You can set aside time at the start of each day to answer any questions they have regarding the prior day's questions. This may be the most feasible option given the tight time constraints that most classes work under.

It will be left up to each instructor to determine how they want to incorporate the KC questions into their class.

If you provide students with time to review the KC questions at the end of specific topics and at the end of each section, you should provide a couple of minutes per question, along with a few extra minutes per question to respond to student questions or challenges concerning certain questions they may not understand or whose answers they disagree with. This may add an extra 15 to 30 minutes to complete each module.

Labs

The labs must be completed within the lab environment provided by your lab hosting provider. Detailed, step-by-step instructions are provided for each lab and presented as part of the UI experience within your lab environment.

At the time the courses were released, the lab instruction had been thoroughly tested and the lab steps were 100% accurate. However, given the nature of Microsoft's cloud products and the fact that Microsoft releases UI updates on a regular basis, it's possible that at some point in time, the UI for a given feature may change so that it no longer matches the lab instruction.

If students encounter lab steps that don't accurately reflect the UI, they'll have to work through the UI to determine what needs to be done. Typically, UI changes are quite subtle, so hopefully you don't find yourself in a situation where a feature was completely overhauled.

However, if you do run into major UI changes, challenge your students to work through it, and only offer help if they definitely need it. Product UI changes will be part of their daily life in today's cloud-centric world. As IT/Pros, they must learn how to work through such situations.

One thing Microsoft does ask of you is that if you run into situations such as this where lab instructions no longer match the corresponding UI, please document the issue in the course's GitHub repository. This will help Microsoft's World-Wide Learning team update the lab instructions to keep them as up to date as possible. For information on how to submit an issue, please see [GitHub User Guide for MCTs](#).

Lab Preparation

The labs for this course require an Azure Pass to complete. Step-by-step instructions are included. Links to labs and demos are included in the learning materials and listed below.

Labs:

- Lab: [Explore Azure SQL Database](#)
- Lab: [Explore Azure Storage](#)
- Lab: [Using Azure Cosmos DB](#)
- Lab: [Explore Azure Synapse Analytics](#)
- Lab: [Explore Azure Stream Analytics](#)
- Lab: [Explore Power BI](#)

Note that the course includes a *subset* of the labs in the associated modules on Microsoft Learn. To be fully prepared to answer students' questions about the concepts covered in this course, trainers are advised to complete all the labs in Microsoft learn – not just the ones included in the instructor-led course. If you have time during the class delivery, consider using these labs as the basis for additional demonstrations, and in any case, encourage students to review them on Microsoft Learn for themselves after class.

In most deliveries, you should use the services of a Microsoft authorized lab hoster to provide a Virtual Machine and Azure subscription for students to use when completing the labs. Students intending to complete the labs on their own after the class will require an Azure subscription to do so.

Azure Subscriptions

To complete the labs and any additional demonstration exercises in this course, students will need an Azure Subscription. If you are not using a hosted lab environment, you will be provided with Azure passes for you and your student. Additional information can be found on [Access to Microsoft Learning Azure Passes for Students of Authorized Microsoft Learning Partners](#). Please ensure that your Learning partner has requested Azure passes for both you and the students. After receiving the passes, each student will need to activate their pass.

The Azure pass effectively functions in the same way as the [publicly available Microsoft Azure Trial Subscription](#). This means there are limitations on what you can do with the pass.

Portal, Cloud Shell, PowerShell, and the CLI

The lab instructions are written to use the Cloud Shell. The Cloud Shell automatically connects to Azure and provides access to PowerShell and the CLI.

If you would rather have students use PowerShell or the CLI locally, you can use these links.

- [Install Azure PowerShell on Windows with PowerShellGet](#)
- [Install Azure CLI on Windows](#)

Tips and Tricks for teaching DP-900

This section includes some tips and suggestions to help you deliver the course.

- Before class starts, complete the exercises in the online modules on Learn.
- There's a lot of content to get through, so be strict with break durations and lab times. Don't spend a lot of time on introductions at the beginning of the course, as you'll find it difficult to make this time up over the rest of the day!
- Use the presenter notes in the slides to help you deliver the content. Remember that many students may not have a technical background, and the online portals may be confusing and intimidating – reassure students that the goal is to help them experience the capabilities for themselves.
- Ensure students get the opportunity to complete the labs in the flow of the course. Don't be tempted to skip labs or leave them to be completed after presenting all the modules. Hands on experience in context is the best way to reinforce the concepts.

Emphasize the relationship between the classroom experience you are delivering and the online content on Microsoft Learn. The goal is to provide the best blend of your expertise as an instructor during the

classroom experience with a rich set of online content that enables students to explore further in their own time – particularly if they are preparing for the associated certification exam.

Resources

There are a lot of resources to help you and the students learn about Microsoft security, compliance, and identity. We recommend you bookmark these pages and offer the list to your students

- [Understand data concepts](#). This is a learning path for learners that may need some introductory level content on data. This learning path will help learners that may not be familiar with data concepts, data analytics, and data roles, services, and products.
- [Exam DP-900: Microsoft Azure Data Fundamentals](#). The exam page includes important information, including links to the [DP-900 study guide](#) that provides the objective domain (OD) for the exam, some free sample questions, and an exam sandbox that allows student to demo the exam experience.
- [Learn](#) – Learners are encouraged to browse through Learn for additional content. Explore a topic in-depth through guided paths or learn how to accomplish a specific task through individual modules.
- [Learn TV](#). Learn how to build solutions and use Microsoft products from the experts that built them! Learn TV is the place to find the latest digital content so you can always keep updated on the latest announcements, features, and products from Microsoft.

There are resources for you, as an instructor, to connect with others and share teaching experiences.

- [MCT Central](#) – Your one stop for all things MCT. Stay up to date with the latest MCT news, learn about upcoming events, find job opportunities, or connect with other MCTs around the world. You can also ask questions and discuss a variety of topics including courseware and certification with Microsoft through the MCT central forums.
- [Training, Certification, and Program Support \(microsoft.com\)](#) - If there are problems with a course or you need to log a support ticket, contact the Official Support channel for MOC courses. This channel is monitored by support agents and is the quickest way to log your course support issue. It is the official support channel for courseware.

Feedback

In this course, we have provided a framework for you to work with. Take time to prepare and think about the value that only an instructor can bring to training. We hope to partner with you to provide an exceptional student experience, and we welcome your feedback.

